

WHAT IS CLAIMED IS:

1. An interconnected chassis for a lock set, comprising:
 - a mounting plate including a first guide channel, a second guide channel spaced apart from said first guide channel, and a spring engaging member;
 - a lower cam arm, having a lower rotational axis, rotatably coupled to said mounting plate;
 - a slide plate having a spring retention wall and a spring engaging surface, said slide plate being positioned between, and in sliding engagement with, said first guide channel and said second guide channel, and positioned above said lower cam arm;
 - a spring; and
 - a spring retention chamber established between said spring retention wall of said slide plate and said mounting plate, said spring retention chamber providing lateral containment of said spring, said spring being positioned in said spring retention chamber between said spring engaging member of said mounting plate and said spring engaging surface of said slide plate.
2. The interconnected chassis of claim 1, further comprising an upper cam arm, having an upper rotational axis, rotatably coupled to said mounting plate, said upper cam arm being positioned above said slide plate.
3. The interconnected chassis of claim 2, wherein a rotation of said lower cam arm about said lower rotational axis results in a displacement of said slide plate, said displacement of said slide plate causing said slide plate to engage said upper cam arm, resulting in a rotation of said upper cam arm about said upper rotational axis.
4. A method for providing an interconnected chassis for a lock set, comprising the steps of:
 - configuring a mounting plate including a first guide channel, a second guide channel spaced apart from said first guide channel, and a spring engaging member;
 - rotatably coupling a lower cam arm, having a lower rotational axis, to said mounting plate;
 - configuring a slide plate having a spring retention wall and a spring engaging surface;

positioning said slide plate between, and in sliding engagement with, said first
 10 guide channel and said second guide channel, and above said lower cam arm; and
 establishing a spring retention chamber between said spring retention wall of
 said slide plate and said mounting plate, said spring retention chamber providing
 lateral containment of a spring, said spring being positioned in said spring retention
 chamber between said spring engaging member of said mounting plate and said spring
 15 engaging surface of said slide plate.

5. The method of claim 4, further comprising the step of rotatably coupling an
 upper cam arm, having an upper rotational axis, to said mounting plate, said upper
 cam arm being positioned above said slide plate.

6. The method of claim 5, wherein a rotation of said lower cam arm about
 said lower rotational axis results in a displacement of said slide plate, said
 displacement of said slide plate causing said slide plate to engage said upper cam arm,
 resulting in a rotation of said upper cam arm about said upper rotational axis.

7. A lock set with an interconnected chassis, comprising:
 a mounting plate including a first guide channel, a second guide channel
 spaced apart from said first guide channel, and a first spring engaging member;
 5 a first cam arm, having a first rotational axis, rotatably coupled to said
 mounting plate;
 a second cam arm, having a second rotational axis, rotatably coupled to said
 mounting plate, said first cam arm and said second cam arm being spaced apart;
 a slide plate having a first cam arm engagement member, a second cam arm
 10 engagement member, and an interior region located between said first cam arm
 engagement member and said second cam arm engagement member, said interior
 region of said slide plate having a first spring retention wall and a first spring
 engaging surface, said slide plate being positioned between, and in sliding
 engagement with, said first guide channel and said second guide channel;
 15 a first compression spring; and
 a first spring retention chamber established between said first spring retention
 wall of said slide plate and said mounting plate, said first spring retention chamber

providing lateral containment of said first compression spring, said first compression spring being positioned in said first spring retention chamber between said first spring engaging member of said mounting plate and said first spring engaging surface of said slide plate.

8. The lock set of claim 7, said first compression spring biasing said second cam arm engagement member of said slide plate into engagement with said second cam arm.

9. The lock set of claim 8, wherein a rotation of said second cam arm about said second rotational axis results in a displacement of said slide plate, said displacement of said slide plate causing said first cam arm engagement member of said slide plate to engage said first cam arm, resulting in a rotation of said first cam arm about said first rotational axis.

10. The lock set of claim 9, wherein said rotation of said second cam arm is effected by a corresponding rotation of an interior operator.

11. The lock set of claim 7, said first spring retention wall defining a first elongated cavity in said slide plate.

12. The lock set of claim 7, further comprising:

a second spring engaging member formed at said mounting plate and spaced apart from said first spring engaging member;

a second spring retention wall formed at said slide plate;

a second spring engaging surface formed at said slide plate;

a second compression spring; and

a second spring retention chamber established between said second spring retention wall of said slide plate and said mounting plate, said second spring retention chamber providing lateral containment of said second compression spring, said second compression spring being positioned in said second spring retention chamber between said second spring engaging member of said mounting plate and said second spring engaging surface of said slide plate.

13. The lock set of claim 12, said second spring retention wall defining a second elongated cavity in said slide plate.

14. The lock set of claim 7, further comprising:

an opening formed through said second cam arm along said second rotational axis; and

an operator having a mounting portion and a split half-round spindle, said mounting portion being positioned in said opening and attached to said second cam arm.

15. The lock set of claim 14, wherein said mounting portion is attached to said second cam arm via a set screw.

16. A method for providing a lock set with an interconnected chassis, comprising the steps of:

configuring a mounting plate for attachment to a door, said mounting plate having a first guide channel, a second guide channel spaced apart from said first guide channel, and a first spring engaging member;

rotatably coupling a first cam arm, having a first rotational axis, to said mounting plate;

rotatably coupling a second cam arm, having a second rotational axis, to said mounting plate, said first cam arm and said second cam arm being spaced apart;

forming a slide plate having a first cam arm engagement member, a second cam arm engagement member, and an interior region located between said first cam arm engagement member and said second cam arm engagement member, said interior region of said slide plate having a first spring retention wall and a first spring engaging surface;

positioning said slide plate between, and in sliding engagement with, said first guide channel and said second guide channel;

establishing a first spring retention chamber between said first spring retention wall of said slide plate and said mounting plate, said first spring retention chamber providing lateral containment of a first compression spring; and

20 positioning said first compression spring in said first spring retention chamber,
and between said first spring engaging member of said mounting plate and said first
spring engaging surface of said slide plate.

17. The method of claim 16, said first compression spring biasing said second
cam arm engagement member of said slide plate into engagement with said second
cam arm.

18. The method of claim 17, wherein rotating said second cam arm about said
second rotational axis results in a displacement of said slide plate, said displacement
of said slide plate causing said first cam arm engagement member of said slide plate
to engage said first cam arm, resulting in a rotation of said first cam arm about said
5 first rotational axis.

19. The method of claim 18, wherein said rotating of said second cam arm is
effected by a corresponding rotation of an interior operator.

20. The method of claim 16, said first spring retention wall defining a first
elongated cavity in said slide plate.

21. The method of claim 16, further comprising the steps of:
forming a second spring engaging member at said mounting plate and spaced
apart from said first spring engaging member;
forming a second spring retention wall at said slide plate;
5 forming a second spring engaging surface at said slide plate; and
establishing a second spring retention chamber between said second spring
retention wall of said slide plate and said mounting plate, said second spring retention
chamber providing lateral containment of a second compression spring, said second
compression spring being positioned in said second spring retention chamber between
10 said second spring engaging member of said mounting plate and said second spring
engaging surface of said slide plate.

22. The method of claim 21, said second spring retention wall defining a second elongated cavity in said slide plate.

23. The method of claim 16, further comprising the steps of:
forming an opening in said second cam arm along said second rotational axis;
and

positioning a mounting portion of an operator having a split half-round spindle
5 in said opening and attaching said mounting portion to said second cam arm.

24. The method of claim 23, wherein said mounting portion is attached to said second cam arm via a set screw.

25. An interconnected chassis for a lock set, comprising:
a mounting plate configured for attachment to a door, said mounting plate including a first opening and a second opening vertically spaced apart from said first opening, a first guide channel and a second guide channel horizontally spaced apart
5 from said first guide channel, and at least a first spring engaging member;
a first cam arm having a first rotational axis, said first cam arm being rotatably coupled to said mounting plate at said first opening;
a second cam arm having a second rotational axis, said second cam arm being rotatably coupled to said mounting plate at said second opening;
10 a first compression spring; and
a slide plate having a first end, a second end, and an interior region between said first end and said second end, said slide plate being positioned between, and in sliding engagement with, said first guide channel and said second guide channel,
said slide plate including a first cam arm engagement member located at said
15 first end of said slide plate and a second cam arm engagement member located at said second end of said slide plate,
said interior region of said slide plate having at least a first spring retention housing, said first spring retention housing having a first elongated cavity defined by a first spring retention wall and having a first spring engaging surface,
20 said first elongated cavity of said slide plate cooperating with said mounting plate to define a first spring retention chamber that provides lateral containment and

support of said first compression spring, said first compression spring being positioned between said first spring engaging member of said mounting plate and said first spring engaging surface of said slide plate, said first compression spring biasing
25 said second cam arm engagement member of said slide plate into engagement with said second cam arm.

26. The interconnected chassis of claim 25, further comprising:
said mounting plate including a second spring engaging member horizontally spaced apart from said first spring engaging member;
a second compression spring; and
5 said slide plate having a second spring retention housing, said second spring retention housing having a second elongated cavity defined by a second spring retention wall and having a second spring engaging surface,
said second elongated cavity of said slide plate cooperating with said mounting plate to define a second spring retention chamber that provides lateral
10 containment and support of said second compression spring, said second compression spring being positioned between said second spring engaging member of said mounting plate and said second spring engaging surface of said slide plate, said first compression spring and said second compression spring biasing said second cam arm engagement member of said slide plate into engagement with said second cam arm.

27. The interconnected chassis of claim 25, further comprising:
an opening formed through said second cam arm along said second rotational axis; and
an operator having a mounting portion and a split half-round spindle, said
5 mounting portion being positioned in said opening and attached to said second cam arm.

28. The interconnected chassis of claim 27, wherein said mounting portion is attached to said second cam arm via a set screw.

29. The interconnected chassis of claim 25, wherein a rotation of said second cam arm about said second rotational axis results in a displacement of said slide plate,

said displacement of said slide plate causing said first cam arm engagement member of said slide plate to engage said first cam arm, resulting in a rotation of said first cam
5 arm about said first rotational axis.

30. The interconnected chassis of claim 29, wherein said rotation of said second cam arm is effected by a corresponding rotation of an interior operator.